

09/672,637

00AB152/ALBRP203US

REMARKS

Claims 1-20 are currently pending in the subject application and are presently under consideration. No claims have been amended herein. A complete listing of all pending claims can be found at pages 2-5 of this Reply.

Applicants' representative notes with appreciation the Examiner's indication that claims 5-8 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants' representative respectfully reserves the right to amend the claims to include allowable subject matter at a later date. However, no such amendments a presently deemed necessary in view of the comments presented below.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments herein.

I. Rejection of Claims 1 and 19 Under 35 U.S.C. §103(a)

Claims 1 and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Takebe (US 5,898,442) and further in view of Atsatt *et al.* (US 6,750,876). This rejection should be withdrawn for at least the following reasons. Neither Takebe nor Atsatt *et al.*, alone or in combination, teach or suggest each and every aspect set forth in the subject claims.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) *must teach or suggest all the claim limitations*. See MPEP §706.02(j). The *teaching or suggestion to make the claimed combination* and the reasonable expectation of success *must both be found in the prior art and not based on applicant's disclosure*. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

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The present invention relates generally to the field of video displays and more particularly to an improved raster engine with a multiple color depth digital display interface. Independent claim 1 sets forth "A raster engine for interfacing a frame buffer in a computer system to one of a plurality of disparate displays, comprising: at least one control register programmable via the computer system to select a display mode; a dual port RAM device operative to obtain pixel data from the frame buffer; and a logic device having a parallel output, the logic device being adapted to *select appropriate pixel* data from the dual port RAM device according to the selected display mode, and to remap the selected pixel data according to the selected display mode; *the raster engine provides the remapped selected pixel data* at the parallel output via the logic device according to a *universal routing scheme* applicable to the plurality of disparate displays." Support for the subject claims can be found, in the specification, for example, at page 11, lines 20-26: "The raster engine *remaps the pixel data from the frame buffer format to an output format required by a selected display type* according to a universal routing scheme, without requiring any rerouting of signals outside the raster engine. The raster engine thus provides programmable support for a plurality of color depth application programs, as well as interfacing thereof with a plurality of disparate displays having varying color depth capabilities, wherein the color depth refers to the number of bits per pixel." The raster engine of the subject claims "is easily programmed to interface a computer system running a variety of application programs with a plurality of disparate display types. The invention can thus be employed in high end as well as highly cost sensitive computer system applications in association with displays *ranging from high definition television (HDTV) to low resolution monochrome EL and/or LCD display panels.*" (Page 4, lines 26-31.) The raster engine of the subject claims is capable of selecting a display mode. (See, e.g., Claims 1, 21, 26, and 30.) "In addition, the raster engine can further comprise an integrated digital to analog converter (DAC) to support analog LCD displays and CRTs." (Page 9, lines 13-14.) Furthermore, "[p]rogrammable compare and register logic 4 *allows a user or a host system application program to select appropriate display modes* for interfacing a frame buffer with *one or a plurality of disparate display devices.*" (Page 16, lines 23-25) Thus, the subject claims recite a system capable of selecting

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display modes for simultaneously displaying data on a variety of different types of (e.g. "disparate") displays. Neither Takebe nor Atsatt *et al.*, alone or in combination, teach or suggest these limitations of the subject claims.

The Examiner contends that Takebe discloses a raster engine that provides remapped selected pixel data at a parallel output to a plurality of disparate displays. The Examiner further asserts that a bus selector remaps selected pixel data citing column 5, lines 40-44. However, contrary to the Examiner's assertions, nowhere does Takebe mention selecting pixel data according to a selected display mode, let alone remapping selected pixel data. Rather, according to Takebe, "...the system *permits* switching of the display selection signal DSEL between H and L states in accordance with the type of display used, so that specified circuit sections can be switched between EL display driver and liquid crystal display driver modes." (Column 5, lines 40-44.) Thus, Takebe permits a switching action to take place based on some input information related to a type of display used, but does not *select* a display type, as set forth in the subject claims.

Moreover, with regard to the Examiner's assertion that the bus selector of Takebe remaps selected pixel data, there is no mention in Takebe of pixel data selection, let alone remapping of selected data. Rather, Takebe provides a dual port memory for each partition of a display 2, into which data from the video memory 3 is read sequentially and jointly. Data from all of the frame buffers is then sequentially output through the bus selector 7 according to a predetermined cycle. (See generally, Figures 8 and 9 and related description.) Thus, data is read directly from the video memory to a frame buffer without any "selection" thereof, and is output according to a schedule without any act of remapping.

Atsatt *et al.* fails to overcome the deficiencies of Takebe with regard to the subject claims. Specifically, Atsatt *et al.* is silent with regard to pixel data selection and/or selected pixel data remapping. Rather, Atsatt *et al.* discusses a video controller that is capable of operating in a plurality of modes, but is silent with regard to the aforementioned aspects of applicants' claimed invention.

In view of at least the foregoing, it is readily apparent that neither Takebe nor Atsatt *et al.*, alone or in combination, makes obvious independent claim 1 (and claim 19, which depends there from). Accordingly, this rejection should be withdrawn.

09/672,63700AB152/ALBRP203US**II. Rejection of Claims 2-4 and 9-18 Under 35 U.S.C. §103(a)**

Claims 2-4 and 9-18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Takebe (US 5,898,442) in view of Atsatt *et al.* (US 6,750,876), and further in view of Reddy *et al.* (US 6,215,459). This rejection should be withdrawn for at least the following reasons. Neither Takebe, nor Atsatt *et al.*, nor Reddy *et al.*, alone or in combination, teach or suggest each and every aspect set forth in the subject claims.

Claims 2-4 and 9-18 depend from claim 1, which is not made obvious by the combination of Takebe and Atsatt *et al.*, as set forth above with regard to Section I. Reddy *et al.* fails to overcome these deficiencies of Takebe and Atsatt *et al.* Specifically, Reddy *et al.* fails to teach or suggest the aspect of a raster engine that *both selects* pixel data according to a selected display mode *and remaps* selected pixel data to provide output according to a *universal routing scheme*. Accordingly, withdrawal of this rejection is respectfully requested.

III. Rejection of Claim 20 Under 35 U.S.C. §103(a)

Claim 20 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Takebe (US 5,898,442) in view of Atsatt *et al.* (US 6,750,876), and further in view of Boger (6,326,935). This rejection should be withdrawn for at least the following reasons. Neither Takebe, nor Atsatt *et al.*, nor Reddy *et al.*, alone or in combination, teach or suggest each and every aspect set forth in the subject claim.

Claim 20 depends from claim 1, which is not made obvious by the combination of Takebe and Atsatt *et al.*, as set forth above with regard to Section I. Boger fails to overcome these deficiencies of Takebe and Atsatt *et al.* Specifically, Boger *et al.* fails to teach or suggest the aspect of a raster engine that *both selects* pixel data according to a selected display mode *and remaps* selected pixel data to provide output according to a *universal routing scheme*. Accordingly, withdrawal of this rejection is respectfully requested.

09/672,63700AB152/ALBRP203US**CONCLUSION**

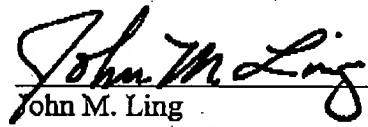
The present application is believed to be in condition for allowance in view of the above comments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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